Safety Data Sheet according to Regulation (EC) 'No. 2015/830















SECTION 1: Identification of the Substance/Mixture and the Company/Undertaking

FLOWSEAL EPW CLEAR **Revision Date:** 19/07/2021 1.1 **Product Identifier** HARDENER B

Supersedes Date: 20/09/2018 Flowseal EPW Clear Hardener B **Product Name:**

NP52-S07U-900N-21EA **UFI Code:**

Relevant identified uses of the 1.2 substance or mixture and uses advised against

Coatings and paints, thinners, paint removers. Manual activities involving hand contact. Widespread use leading to inclusion into/onto article (indoor). For use by appropriately trained applicators. Roller application or brushing. Low energy spreading of coatings. Advised against: Home DIY applications, because of the health hazards and training required. Hardener for 2 component coatings - Industrial and professional

Details of the supplier of the safety data sheet 1.3

> Flowcrete Polska Sp. z o. o. Manufacturer:

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ehs.uk@flowcrete.com **Datasheet Produced by:**

CHEMTREC +1 703 5273887 (Outside US) 1.4 Emergency telephone number:

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SECTION 2: Hazard Identification

Date Printed: 19/07/2021

2.1 Classification of the substance or mixture

Classification according to Classification, Labeling & Packaging Regulation (EC) 1272/2008

HAZARD STATEMENTS

Skin Corrosion, category 1B	H314-1B
Skin Sensitizer, category 1	H317
Hazardous to the aquatic environment, Acute, category 1	H400
Hazardous to the aquatic environment, Chronic, category 1	H410

H314-1B

P391

2.2 Label elements

Symbol(s) of Product







Signal Word

Danger

Named Chemicals on Label

m-Phenylenebis(methylamine), 2-Propenenitrile, reaction products with 3-amino-1,5,5-trimethylcyclohexanemethanamine

Causes severe skin burns and eye damage.

HAZARD STATEMENTS

Skin Corrosion, category 1B

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Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, Acute, category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment, Chronic, category 1	H410	Very toxic to aquatic life with long lasting effects.
PRECAUTION PHRASES		
	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
	P264	Wash hands thoroughly after handling.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/ face protection.
	P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
	P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P302+352	IF ON SKIN: Wash with plenty of soap and water.
	P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
	P305+P351+P33	IF IN EYES: Rinse cautiously with water for several minutes.
	8	Remove contact lenses, if present and easy to do so.
	P333+313	Continue rinsing.
		If skin irritation or rash occurs: Get medical advice/attention.
	P363	Wash contaminated clothing before reuse.

Collect spillage.

2.3 Other hazards
No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

SECTION 3: Composition/Information On Ingredients

3.2 Mixtures

Hazardous	ingredients
i iuzui uous	ingredients

Name According to EEC	EINEC No.	CAS-No.	<u>%</u>	Classifications	
Aliphatic polyamine	-	-	25 - <50	H400-410	
2-Propenenitrile, reaction products with 3-amino-1,5,5- trimethylcyclohexaneme thanamine	292-053-3	90530-15-7	10 - <25	H314-317	Skin Corr. 1B, Skin Sens. 1A
m-Phenylenebis (methylamine)	216-032-5	1477-55-0	1.0 - <2.5	H302-314-317-332-412	Acute Tox. 4 Inhalation, Acute Tox. 4 Oral, Aquatic Chronic 3, Skin Corr. 1B, Skin Sens. 1
2,4,7,9- Tetramethyldec-5- yne-4,7-diol, ethoxylated	500-022-5	9014-85-1	0.1 - <1.0	H318-412	Aquatic Chronic 3, Eye Dam. 1
2,4,7,9- Tetramethyldec-5- yne-4,7-diol	204-809-1	126-86-3	<0.1	H317-318-412	Aquatic Chronic 3, Eye Dam. 1, Skin Sens. 1

CAS-No.	M-Factors	REACH Reg No.
-		-
90530-15-7		01-2120094715-47
1477-55-0		01-2119480150-50
9014-85-1		01-2119954393-33
126-86-3		01-2119954390-39

Additional Information: The text for CLP Hazard Statements shown above (if any) is given in Section 16.

SECTION 4: First-aid Measures

4.1 Description of First Aid Measures

GENERAL NOTES: When symptoms persist or in all cases of doubt seek medical advice. Show this safety data sheet to the doctor in attendance. Risk of product entering the lungs on vomiting after ingestion. Remove contaminated clothing and shoes.

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure. Keep respiratory tract clear.

Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Keep eye wide open while rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If swallowed, seek medical advice immediately and show this container or label.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns. May cause sensitization by skin contact.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above. Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

Keep containers and surroundings cool with water spray. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Fire will produce dense black smoke containing hazardous combustion products (see section 10). In the event of fire, wear self-contained breathing apparatus. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Refer to protective measures listed in sections 7 and 8.

6.4 Reference to other sections

FURTHER INSTRUCTIONS: Please refer to EU disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Wear personal protective equipment. Use only in well-ventilated areas.

Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. In the case of sensitisation to any of the ingredients, it is inadvisable to work with the product. Handle in accordance with good industrial hygiene and safety practice. Keep working clothes separately. Keep away from food, drink and animal

feedingstuffs. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Avoid temperatures above 40 °C, direct sunlight and contact with sources of heat. Do not freeze. Direct sources of heat.

STORAGE CONDITIONS: Do not freeze. Store at room temperature in the original container. Keep locked up or in an area accessible only to qualified or authorised persons. Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

Component of a resin flooring product. The mixing and application to be in accordance with the technical data sheets.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (UK WELS)

<u>Name</u>	CAS-No.		LTEL ppm	STEL ppm	STEL mg/m3	LTEL mg/m3
Aliphatic polyamine	-					
2-Propenenitrile, reaction products with 3- amino-1,5,5- trimethylcyclohexanemethanamine	90530-15-7					
m-Phenylenebis(methylamine)	1477-55-0					
2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated	9014-85-1					
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3					
Name	CAS-No.	OEL Note				
		OEL Note				
Name Aliphatic polyamine	CAS-No.	OEL Note				
		OEL Note				
Aliphatic polyamine 2-Propenenitrile, reaction products with 3-amino-1,5,5-	-	OEL Note				

FURTHER ADVICE: Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified under the EU CLP Regulation.

8.2 Exposure controls

ethoxylated

Personal Protection

2,4,7,9-Tetramethyldec-5-yne-4,7-diol

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required.

126-86-3

EYE PROTECTION: Eye wash bottle with pure water. Tightly fitting safety goggles. Face-shield.

HAND PROTECTION: Impervious gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

OTHER PROTECTIVE EQUIPMENT: No Information

ENGINEERING CONTROLS: As a rule, at least 5 air changes per hour are recommended at the workplace. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

Chemical Name:

2-Propenenitrile, reaction products with 3-amino-1,5,5-trimethylcyclohexanemethanamine

EC No.: CAS-No.: 292-053-3 90530-15-7

DNELs - Derived no effect level

		Wo	orkers		Consumers			
Route of	Acute effect	Acute effects	Chronic	Chronic effects	Acute effect	Acute effects	Chronic	Chronic effects
Exposure	local	systemic	effects local	systemic	local	systemic	effects local	systemic
Oral		Not required						
Inhalation								
Dermal								

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.00992 mg/l
Fresh water sediments	96.97 mg/kg
Marine water	0.00099 mg/l
Marine sediments	9.68 mg/kg
Food chain	
Microorganisms in sewage treatment	4.65 mg/l
soil (agricultural)	19.33 mg/kg
Air	

Chemical Name:

m-Phenylenebis(methylamine)

EC No.: CAS-No.: 216-032-5 1477-55-0

DNELs - Derived no effect level

		Wo	rkers		Consumers			
Route of	Acute effect	Acute effects	Chronic	Chronic effects	Acute effect	Acute effects	Chronic	Chronic effects
Exposure	local	systemic	effects local	systemic	local	systemic	effects local	systemic
Oral		Not	required					
Inhalation			0.2 mg/m ³	1.2 mg/m ³				
Dermal			-	0.33 mg/kg bw/d				

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.094 mg/l
Fresh water sediments	0.43 mg/kg
Marine water	0.0094 mg/l
Marine sediments	0.043 mg/kg
Food chain	
Microorganisms in sewage treatment	10 mg/l
soil (agricultural)	0.045 mg/kg
Air	

Chemical Name:

2,4,7,9-Tetramethyldec-5-yne-4,7-diol

EC No.: CAS-No.: 204-809-1 126-86-3

DNELs - Derived no effect level

		Wo	orkers			Consumers			
Route of Exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	
Oral	local	1 - 1	required	Systemic	local	0.75 mg/kg	enects local	0.25 mg/kg bw/d	
					bw/d				
Inhalation		5.28 mg/m3		1.76 mg/m3		1.29 mg/m3		0.43 mg/m3	
Dermal		1.5 mg/kg bw/		0.5 mg/kg bw/d		0.75 mg/kg		0.25 mg/kg bw/d	
		d				bw/d			

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.04 mg/l
Fresh water sediments	0.32 mg/kg dw
Marine water	0.004 mg/l
Marine sediments	0.032 mg/kg dw
Food chain	
Microorganisms in sewage treatment	7 mg/l
soil (agricultural)	0.028 mg/kg dw
Air	

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
Appearance: Yellowish

Physical State Liquid

Odor Amine like odor
Odor threshold Not determined
pH Not determined
Melting point / freezing point (°C) Not determined

Boiling point/range (°C) >100 - N.D.

Flash Point, (°C) > 100

Evaporation rate Not determined

Flammability (solid, gas) Not determined

Upper/lower flammability or explosive

limits

Not determined

Vapour Pressure Not determined
Vapour density Not determined

Relative density ca. 1.1

Solubility in / Miscibility with water Soluble

Partition coefficient: n-octanol/water

Auto-ignition temperature (°C)

Not determined

Decomposition temperature (°C)

Not determined

Viscosity ca. 400-3000 cP

Explosive properties Not explosive

Oxidising properties Not determined

9.2 Other information

Date Printed: 19/07/2021

VOC Content g/l: <60

Specific Gravity (g/cm3) 0.120

SECTION 10: Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed. Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Avoid temperatures above 40 °C, direct sunlight and contact with sources of heat. Do not freeze. Direct sources of heat.

10.5 Incompatible materials

Acids. Strong oxidizing agents.

10.6 Hazardous decomposition products

In case of fire **hazardous decomposition products** may be produced such as: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: No information available.

Inhalation LC50: No information available.

Irritation: Irritating to eyes and skin.

Corrosive to eyes and skin.

Sensitization: Prolonged or repeated skin contact may result in allergic eczema.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Name According to EEC	Oral LD50	Dermal LD50	Vapor LC50	Gas LC50	Dust/Mist LC50
-	Aliphatic polyamine	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)	Not determined	Not determined	Not determined
90530-15-7	2-Propenenitrile, reaction products with 3-amino-1,5,5-trimethylcyclohexanemethana mine	2600 mg/kg (rat)	Not determined	Not determined	Not determined	Not determined
1477-55-0	m-Phenylenebis (methylamine)	930 mg/kg (rat)	>2000 mg/kg (rabbit)	Not determined	Not determined	1.34 mg/l (rat)

Additional Information:

Date Printed: 19/07/2021

In the case of sensitisation to any of the ingredients, it is inadvisable to work with the product. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Corrosive - causes irreversible eye damage.

SECTION 12: Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):

No information

No information

No information

No information

No information

12.2 Persistence and degradability: Not readily biodegradable

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

12.5 Results of PBT and vPvB The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

assessment:

12.6 Other adverse effects: No information

CAS-No.	Name According to EEC	EC50 48hr	IC50 72hr	LC50 96hr
-	Aliphatic polyamine	ca 0.9 mg/l (Daphnia magna)	> 0.3 mg/l (P. subcapitata)	> 0.3 mg/l (Brachydanio rerio)
90530-15-7	2-Propenenitrile, reaction products with 3- amino-1,5,5- trimethylcyclohexanemethanamine	>100 mg/l (Daphnia magna)	9.92 mg/l (P. subcapitata)	>100 mg/l (Brachydanio rerio)
1477-55-0	m-Phenylenebis(methylamine)	15.2 mg/l (Daphnia magna)	20.3 mg/l (P. subcapitata)	87.6 mg/l (Oryzias latipes)
9014-85-1	2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated	No information	No information	
126-86-3	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	No information	No information	

SECTION 13: Disposal Considerations

13.1 WASTE TREATMENT METHODS: Dispose of as hazardous waste in compliance with local and national regulations. If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal. The product should not be allowed to enter drains, water courses or the soil.

European Waste Code: 080119*

Date Printed: 19/07/2021

European Waste Code: 080119* Packaging Waste Code: 150110*

SECTION 14: Transport Information

14.1 UN number UN2735

14.2 UN proper shipping name Amines, liquid, corrosive, N.O.S.

Technical name (2-Propenenitrile-isophoronediamine, Aliphatic Polyamine)

14.3 Transport hazard class(es) 8

Subsidiary shipping hazard Not applicable

14.4 Packing group

14.5Environmental hazardsMarine Pollutant14.6Special precautions for userNot applicableEmS-No.:F-A, S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Not applicable

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

National Regulations:

Denmark Product Registration Number: PR-nr. 1343786

Danish MAL Code: 00-5 (1993)

Danish MAL Code - Mixture: 1-5 (1993)

Sweden Product Registration Number: Not available

Norway Product Registration Number: Not available

Germany WGK Class: 3

Directive 2004/42/CE : <60

Covered by Directive 2012/18/EC (Seveso III): Not applicable

Restrictions to product or to substances according

to Annex XVII, Regulation (CE) 1907/2006: Not applicable

Annex XIV - Authorisation List:

CAS-No. Name According to EEC

Not Applicable

SVHC - Substances of very high concern (Candidate List):

CAS-No. Name According to EEC

Not Applicable

15.2 Chemical Safety Assessment:

Date Printed: 19/07/2021

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other Information

Text for CLP Hazard Statements shown in Section 3 describing each ingredient:

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Reasons for revision

Substance Hazard Threshold % Changed

Substance and/or Product Properties Changed in Section(s):

01 - Identification

08 - Exposure Controls/Personal Protection

09 - Physical and Chemical Properties

11 - Toxicological Information

12 - Ecological Information

13 - Disposal Information15 - Regulatory Information

Substance CAS Number Changed

Revision Statement(s) Changed

This Safety Data Sheet (SDS) has been revised to meet the new EU CLP requirements. There have been both formatting and content changes based on the CLP classification (if applicable), please review each section of the SDS for specific changes.

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark; European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;

European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP); EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

Acronym & Abbreviation Key:

CLP Classification, Labeling & Packaging Regulation

EC European Commission
EU European Union
US United States

CAS Chemical Abstract Service

EINECS European Inventory of Existing Chemical Substances

REACH Registration, Evaluation, Authorization of Chemicals Regulation

GHS Globally Harmonized System of Classification and Labeling of Chemicals

LTEL Long term exposure limit
STEL Short term exposure limit
OEL Occupational exposure limit

ppm Parts per million

mg/m3 Milligrams per cubic meter

TLV Threshold Limit Value

ACGIH American Conference of Governmental Industrial Hygienists

OSHA Occupational Safety & Health Administration

PEL Permissible Exposure Limits
VOC Volatile organic compounds

g/l Grams per liter

mg/kg Milligrams per kilogram

N/A Not applicable LD50 Lethal dose at 50%

LC50 Lethal concentration at 50%

EC50 Half maximal effective concentration

IC50 Half maximal inhibitory concentration

PBT Persistent bioaccumulative toxic chemical

vPvB Very persistent and very bioaccumulative

EEC European Economic Community

ADR International Transport of Dangerous Goods by Road RID International Transport of Dangerous Goods by Rail

UN United Nations

IMDG International Maritime Dangerous Goods Code
IATA International Air Transport Association

MARPOL International Convention for the Prevention of Pollution From Ships, 1973 as

modified by the Protocol of 1978

IBC International Bulk Container RTI Respiratory Tract Irritation

NE Narcotic Effects

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.